International Journal of Community Medicine and Public Health
Oo KM et al. Int J Community Med Public Health. 2021 May;8(5):2212-2219
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20211737

Original Research Article

Study on internet usage and internet addiction of medical students in universities of Myanmar

Khin May Oo[1]*, Pa Pa Soe[2], Win Myint Oo[3]

[1]Department of Public Health Laboratory Science, University of Public Health, Yangon, Myanmar
[2]Preventive and Social Medicine Department, University of Medicine Mandalay, Mandalay, Myanmar
[3]Faculty of Medicine, SEGi University, Malaysia

Received: 17 March 2021
Revised: 15 April 2021
Accepted: 16 April 2021

***Correspondence:**
Dr. Khin May Oo,
E-mail: dr.khinmayoo@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Internet is relatively new technology that can provide up to date knowledge in education. Even though the significant advantages, abuse of internet results in addiction disorder especially younger age. The aim of this study was to determine the internet utilization and internet addiction (IA) of third year medical students in medical universities of Myanmar.
Methods: This was cross-sectional descriptive study in which the questionnaire mainly based on a questionnaire, IA test score. Total 412 medical students from medical universities were enrolled in the study.
Results: This study shows 80.83% of students used internet more than five hours and 99.51% used internet every day. Common activities were social media 93.93%, entertainment 94.17%, watching movies 90.78%, communication 87.86% respectively. Among the reasons of use, education (p=0.003), shopping (0.002) and due to free wi-fi (p=0.006) were found to be significantly associated with IA. The majority (47.33%) was moderately addicted, (45.39%) was mildly addicted and 1.7 % was severely addicted. There was significant relationship between IA and time for more than five hours per day. Higher level of prevalence of IA was using online for watching movies, blogging, study information. Among the reasons of internet use, education, shopping and due to wi-fi were significantly associated with IA ($p<0.05$).
Conclusions: IA is growing problem and medical students are vulnerable for IA and so necessary preventive measures are vital to provide safe usage of internet.

Keywords: Internet usage, Internet addiction, Medical students

INTRODUCTION

In the 21st century, internet has become an integral part of human society as the ways of the tools of businesses, communication and popular culture around the world, access to information, access to new events, learning and education especially among youths. It has invaded the daily activities of lifestyle and played a vital role and change the living standard. It provides several ways of interaction and different opportunities in learning for students throughout worldwide. And it can lessen the distances and expanding the relationships between human beings.

Almost 4.57 billion people were active internet users as of April 2020, encompassing 59 percent of the global population. As of 2018, Asia was the region with the largest number of online users, over 2 billion at the latest count. Europe was ranked second with almost 705 million internet users. As of January 2019, east Asia accounted for one billion of the world's internet users, followed by

southern Asia with 803 million. The global digital population in July 2019 amounted to over 4.33 billion internet users in total.[1]

The internet in Myanmar was available when the first internet connections established in 2000. However, the accessibility of the internet has been controlled by the military until 2011 September working aggressively to limit internet access through software-based censorship, infrastructure and technical constraints and laws and regulations with large fines and lengthy prison sentences for violators. Therefore, there were 1000 internet users in Myanmar but in 2015, the internet users has significantly increased to 12.6% with the introduction of faster mobile 3G internet by transnational telecommunication companies such as Telenor, Ooredoo, Mytel and MPT. In Myanmar, an explosive growth is found in terms of internet usage. There were 1,000 internet users in 2000, it becomes 18 million (33.4%) of the total population in 2018.[2]

Use of internet is a part of the student daily routine. It is integrated in to their daily communication habit. Students use internet nearly as much for social communication as they do for their education.[3] Mobile phone usage has both pros and cons effect. Medical students need to study throughout their MBBS syllabus for longer hours compared to other students. On one hand, availability of phones and internet very easily can hamper their concentration and learning process. In addition, availability of e-text books, power points of their study materials by smartphone also help a lot in study.[4] But phone and internet usage has also become an important public health problem as there have been reports of plenty of health hazards, both physical and mental, in people of all age groups.

There is still controversial whether it can be said as an addiction or not. On one hand, there are many benefits of internet uses such as access to needed information, learning and education, worldwide access to news and events and communications through emails and social media. This use of internet for long time, it can cause negative effects, like its detrimental effect on academic performance, social isolation and psychological problems.[5] To some extent, there is a growing concern regarding effects associated with the internet addiction. Some academia came to concern about the adverse effects of internet usages. It is believed that over-use of the internet has the potential to become an addiction. Negative consequences including academic and professional impairments have been found in IA sufferers.[6]

Internationally, there have been much research on the internet usage and internet addiction. The internet addiction test (IAT) by Kimberly Young is one of the most utilized diagnostic instruments for IA. In Young's diagnostic criteria for internet usage composed of four components: excessive internet use (loss of time or neglecting basic functions, withdrawal symptoms such as anger or depression when internet is inaccessible, tolerance and need for increased use of internet to relieve negative emotional symptoms and negative consequences such as arguments with friends or family, poor school or work performance, social isolation.[7]

Therefore, in this study, this IAT of Kimberly Young is used to study the impact of internet utilization and internet addiction on third year medical students. The IAT consists of 20 questions and the respondents are asked to rate items on a five-point Likert scale, covering the degree to which their internet are affects their daily routine, social life, productivity, sleeping pattern, and feelings. The minimum score is 20 and the maximum is 100. Thus the higher the scores are, the greater the problems of internet use causes. Young suggests that a score of 20-39 points is an average online user who has complete control over his usage, a score of 40-69 signifies frequent problems due to internet usage, and a score of 70-100 means that the internet is causing significant problems.

In this study the internet usage and addiction of medical students from different medical universities in Myanmar will be studied. The findings of this study would be beneficial as a baseline data for further in-depth studies. The ultimate aim was to provide scientific finding that may help in selecting the effective way of internet usage for their career development by using the result obtained on the internet usage pattern of students from different medical universities in Myanmar.

METHODS

Cross-sectional analytical study was carried out from June 2020 to November 2020 among third year medical students in all medial universities of Myanmar after approval from research and ethics committee of university of medicine.[1] A total of 412 students from five medical universities were included in this study. Only those medical students who gave informed consent were included in the study. All the participants were assured that the information given by them would be anonymous and confidential.

All the participants were informed the purpose of study, questionnaire, data confidentiality and voluntary participation of the students. Application of questionnaire was performed by online format.

The institutions-based, cross-sectional study was conducted in five medical universities namely, university of medicine 1, university of medicine 2, Yangon, university of medicine Mandalay and university of medicine Magway, University of Medicine Taunggyi. The researchers used convenient sampling technique by using online goggle form. Total 412 medical students were enrolled in the study to assess the internet utilization, internet addiction level among medical

students of Myanmar. The researchers develop the data collection tool after many international literature search and opinions between researchers. The questionnaire mainly based on a questionnaire, IAT-20 score, developed by the center for internet addiction, USA (http://netaddiction.com/internet-addiction-test/). IAT-20, a 20-item 6-point Likert scale tool (0=not applicable, 1=rarely, 2=occasionally, 3=frequently, 4=often, 5=always) was used to assess internet addiction and its severity. After all the questions were answered, the numbers for each response were added to obtain a final score. The higher the score, the greater is the level of addiction and creation of problems resulting from such internet usage. A score of 0-19 was considered as no addiction/normal internet usage, 20-49 points as mild addiction, 50-79 as moderate addiction and 80-100 as severe addiction. The internet utilization and internet addiction questionnaire included 43 items under 4 parts namely socio-demographic characteristics, internet usage pattern, internet addiction level assessment. A pilot study was conducted on 20 university students from another university and the Cronbach's alpha of the tool was 0.82 which was calculated using statistical package for the social sciences version 23.

Data entry was done by using epidata 3.1 version that uses range checks and other controls to minimize human errors. Data analysis was done by using STATA version 11.0. Respective means, standard deviation, median, quartiles and proportion for variables will be calculated. Tables, bar graphs will be displayed. Chi square test for categorical data, paired t test and ANOVA test for difference between means will be used after ensuring necessary assumptions are met. A value of p less than 0.05 was considered significant for all statistical correlations.

RESULTS

Among the third year medical students from five medical universities in Myanmar, 412 students participated in this study. Out of 412 students, 140 (33.98%) were male while 272 (66.02%) were female. The mean age of study sample is less than 20 year in 332 (80.58%) and more than 20 in 80 (19.42%). Among the participants, 224 (54.37%) used less than 10 percent of pocket money and 188 (45.63%) spent more than 10 percent for internet utilization. In the matter of duration of internet utilization, 333 (80.83%) of students spent more than five hours and 79 (19.17%) of them on internet less than five hours (Table 1).

Pertaining with timeline of internet use, the mean duration was 5.7 years and 410 (99.51%) was every day user. Of the study population 397 (96.35%) used mobile phone for utilization of internet (Table 2). But there were no association between levels of internet addiction and mean duration, frequency of using internet, mobile phone availability in this study. Relating with activities on internet, the most common were social media 387 (93.93%), watching movies 374 (90.78%), and chatting 321 (77.91 %) respectively (Table 2). In this study, the percentage of reasons for internet utilization were entertainment 388 (94.17%), communication 362 (87.86%), education 323 (78.40%), information 321 (77.91%) (Table 3). Of 421 students, only 23 (5.58%) were not having any internet addiction while 187 (45.33%) were mild addicts, 195 (47.33%) were moderately addicts, 7 (1.7%) were severely addict students (Table 4).

Table 1: Characteristics of study participants.

Variables	Numbers	Percent (%)
Gender		
Male	140	33.98
Female	272	66.02
Age in years		
Mean (SD)	19.2±0.61	
<20	332	80.58
≥20	80	19.42
Pocket money per month-MMK		
Median (IQR)	50000 (40000, 75000)	
<50000	139	33.74
≥50000	273	66.26
Percent of pocket money for internet utilization		
Median (IQR)	10 (7.20)	
<10	224	54.37
≥10	188	45.63
Time spent for internet (hour) per day		
Median (IQR)	5 (4.9)	
<5	79	19.17
≥5	333	80.83

Table 2: Internet utilization pattern.

Variables	Numbers	Percent (%)
Duration (year) mean (SD)	5.7 (1.94)	
Frequency		
Everyday	410	99.51
Few times per week	2	0.49
Gadget for internet use		
Mobile phone	397	96.36
Laptop	4	0.97
Personal device	11	2.67
Activities		
Email	72	17.48
Gaming	211	51.21
Watching	374	90.78
Social media	387	93.93
Chatting	321	77.91
Blogging	9	2.18
General information	272	66.02
Study information	263	63.83
Others	24	5.83

Table 3: Reasons for internet use.

Variables	Numbers	Percent (%)
Education	323	78.40
Communication	362	87.86
Entertainment	388	94.17
Information	321	77.91
Gaming	215	52.18
Getting friends	71	17.23
Shopping	154	37.38
Free wi-fi	183	44.42
Peer pressure	29	7.04
Lack of control	58	14.08
Others	10	2.43

Table 4: Internet addiction.

Internet Addiction	Numbers	Percent
No addiction	23	5.58
Mild addiction	187	45.39
Moderate addiction	195	47.33
Severe addiction	7	1.70
Total	412	100

Table 5: Association between IA and demographic data.

	Internet addiction					P value
	No addiction N (%)	Mild addiction N (%)	Moderate addiction N (%)	Severe addiction N (%)	Total N (%)	
Gender						
Male	8 (5.71)	61 (43.57)	68 (48.57)	3 (2.14)	140 (100)	0.92
Female	15 (5.51)	126 (46.32)	127 (46.69)	4 (1.47)	272 (100)	
Age (in years)						
<20	20 (6.02)	137 (41.27)	169 (50.9)	6 (1.81)	332 (100)	0.008
≥20	3 (3.75)	50 (62.5)	26 (32.5)	1 (1.25)	80 (100)	

Continued.

	Internet addiction					P value
	No addiction N (%)	Mild addiction N (%)	Moderate addiction N (%)	Severe addiction N (%)	Total N (%)	
Pocket money per month (MMK)						
<50000	13 (9.35)	74 (53.24)	50 (35.97)	2 (1.44)	139 (100)	0.003
≥50000	10 (3.66)	113 (41.39)	145 (53.11)	5 (1.83)	273 (100)	
Percent of pocket money for internet utilization						
<10	15 (6.70)	104 (46.43)	104 (46.43)	1 (0.45)	224 (100)	0.12
≥10	8 (4.26)	83 (44.15)	91 (48.4)	6(3.19)	188 (100)	
Time spent for internet (hour)						
<5	13 (16.46)	45 (56.96)	21 (26.58)	0 (0)	79 (100)	<0.001
≥5	10 (3)	142 (42.64)	174 (52.25)	7 (2.01)	333 (100)	

Table 6: Association between IA and activities on line.

	Internet addiction										
	No addiction		Mild addiction		Moderate addiction		Severe addiction		Total		P value
	No.	%	No.	%	No.	%	No.	%	No.	%	
Email											
Yes	4	5.6	40	55.6	26	36.1	2	2.8	72	100	0.127
No	19	5.6	147	43.2	169	49.7	5	1.5	340	100	
Gaming											
Yes	6	2.8	94	44.5	108	51.2	3	1.4	211	100	0.057
No	17	8.5	93	46.3	87	43.3	4	2	201	100	
Watching movies											
Yes	15	4	169	45.2	183	48.9	7	1.9	374	100	0.001
No	8	21.1	18	47.4	12	31.6	0	0	38	100	
Social media											
Yes	22	5.7	181	46.8	177	45.7	7	1.8	387	100	0.087
No	1	4	6	24	18	72	0	0	25	100	
Chatting											
Yes	13	4	143	44.5	160	49.8	5	1.6	321	100	0.037
No	10	11	44	48.4	35	38.5	2	2.2	91	100	
Blogging											
Yes	0	0	0	0	8	88.9	1	11.1	9	100	0.005
No	23	5.7	187	46.4	187	46.4	6	1.5	403	100	
General information											
Yes	15	5.5	131	48.2	121	44.5	5	1.8	272	100	0.409
No	8	5.7	56	40	74	52.9	2	1.4	140	100	
Study information											
Yes	18	6.8	129	49	111	42.2	5	1.9	263	100	0.035
No	5	3.4	58	38.9	84	56.4	2	1.3	149	100	
Others											
Yes	2	8.3	11	45.8	11	45.8	0	0	24	100	0.856
No	21	5.4	176	45.4	184	47.4	7	1.8	388	100	

Table 7: Association between reason for internet use and internet addiction.

	Internet addiction										
	No addiction		Mild addiction		Moderate addiction		Severe addiction		Total		P value
	No.	%	No.	%	No.	%	No.	%	No.	%	
Education											
Yes	18	5.6	159	49.2	141	43.7	5	1.5	323	100	0.017
No	5	5.6	28	31.5	54	60.7	2	2.2	89	100	

Continued.

	Internet addiction										
	No addiction		Mild addiction		Moderate addiction		Severe addiction		Total		P value
	No.	%	No.	%	No.	%	No.	%	No.	%	
Communication											
Yes	18	5	161	44.5	176	48.6	7	1.9	362	100	0.227
No	5	10	26	52	19	38	0	0	50	100	
Entertainment											
Yes	21	5.4	175	45.1	185	47.7	7	1.8	388	100	0.749
No	2	8.3	12	50	10	41.7	0	0	24	100	
Information											
Yes	17	5.3	150	46.7	148	46.1	6	1.9	321	100	0.704
No	6	6.6	37	40.7	47	51.6	1	1.1	91	100	
Gaming											
Yes	7	3.3	103	47.9	102	47.4	3	1.4	215	100	0.147
No	16	8.1	84	42.6	93	47.2	4	2	197	100	
Getting friends											
Yes	8	11.3	28	39.4	33	46.5	2	2.8	71	100	0.092
No	15	4.4	159	46.6	162	47.5	5	1.5	341	100	
Shopping											
Yes	8	5.2	55	35.7	87	56.5	4	2.6	154	100	0.011
No	15	5.8	132	51.2	108	41.9	3	1.2	258	100	
Free wi-fi											
Yes	7	3.8	72	39.3	100	54.6	4	2.2	183	100	0.031
No	16	7	115	50.2	95	41.5	3	1.3	229	100	
Peer pressure											
Yes	3	10.3	12	41.4	13	44.8	1	3.4	29	100	0.333
No	20	5.2	175	45.7	182	47.5	6	1.6	383	100	
Lack of control											
Yes	3	5.2	26	44.8	28	48.3	1	1.7	58	100	1
No	20	5.6	161	45.5	167	47.2	6	1.7	354	100	
Others											
Yes	1	10	5	50	4	40	0	0	10	100	0.619
No	22	5.5	182	45.3	191	47.5	7	1.7	402	100	

Table 5 shows the relationship between demographic variable and internet addiction. It showed that variables such as percentage of pocket money per month and time for internet more than five hours per day have significant association with IA. Also a higher level of prevalence of internet addiction was among those activity using online for watching movies (p=0.001), blogging (p=0.005), study information (0.035) (Table 6). Among the heterogeneous reasons of internet use, education (p=0.003), shopping (p=0.002) and due to wi-fi (p=0.006) were found to be significantly associated with IA (Table 7).

DISCUSSION

The present study investigated the internet utilization and internet addiction of third year medical students in Myanmar.

In this study the duration of internet use, the mean duration is 5.7 years and 410 (99.51%) is every day user. The medical students 80.83% spent more than five hours duration on internet utilization. In our study, internet addict students found to spend significantly greater amount of time on internet. This finding correlated with the study by Salehi et al in medical students from Mashhad, Iran. They mentioned that problematic internet users spent longer hours using internet than normal internal users.[8] But among the university students in the age of 17-21 years from the university of Mumbai, most of the students (80%) spent less than hour a day which is less than to this study.[9] The longer hour of stay on internet in this study may be due to the fact that the data was collected during COVID-19 pandemic period, so most of the students spent their pocket money and time more than in other studies. There was significant association between pocket money per month and time spent for internet and internet addiction status (p<0.001). Other literature reported the similar finding of spending more than 5 hour per day on internet increased the likelihood of internet addiction. Longer time spent on the internet service as a distraction from daily schoolwork. This condition put the students at a disadvantage in poor academic performance.[10] Greater spending of money and

time on internet may lead to academic burden, social consequences and financial problems for students.

It was found that 5.58% were not addicted, 45.33% were mild addicts, 47.33% were moderately addicts, 1.7% were severely addict students. The results of this study were higher than other studies. In a study in India, Sharma et al described 35% was mild, 7.4% moderate, and 0.3% severe addict among colleague students.[11] But in a study in Iran, Mashaei et al observed that students of Rafsanjan university of medical sciences, Iran as 51.3% mild, 5.4% moderate, 0.9% severe and 42.4% of students were not addicted to the internet.[12] The higher percentage of internet addiction in this study may be due to the fact that the data was collected during COVID-19 pandemic period and all the students stayed at home for more than one year, so they spent more time for social media, watching movies, listening songs, chatting with friends, online shopping and gaming.

In this study the most prevalence activities on internet are social media, watching movies and chatting. Association with higher level of prevalence of internet addiction was among those activity using online for watching movies, blogging, study information. Like in a study in India, there were significant association between internet addiction and social networking, watching videos and visiting websites in medical students.[13,14] Some study mentioned that IA does not affect students' academic performance, in that study they discussed that online media usage for education helps students for improving their academic performance.[15,16] In this study during the pandemic period some of the students continued their education by attending online classes not only academic but also languages and other soft skill class as their desired. So there was a significant association between internet addiction and education.

CONCLUSION

The present study provided the overview of the current situation of the burden of internet addiction among medical universities in Myanmar. Among the students most of them were mild and moderate addicts and we found that few of them were severely addicted. Since this was the first paper regarding the IA of medical students in this country, it is needed to conduct more longitudinal prospective study to identify the depth of the problem among medical students. Thereafter, a proper guideline should be developed for students for using the internet focus on more academic sites rather than non-academic. This can be managed by their institutes through education, counselling the effects and workshops for better professional career to be achieved.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge all the participant's from universities of medicine founding this project.

Funding: This research is funded by IR grant (MOHS, 2020).
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Statista. Fact sheet: Clement, statistics and market data about the internet, global digital population, 2020. Available at: https://www.statista.com/markets/424/internet/. Accessed on 17 February 2021.
2. Internet World Stats. Fact sheet: usage and population status, 2021. Available at: https://www.internetworldstats.com/stat.htm. Accessed on 17 February 2021.
3. Unnikrishnan B, Kulshrestha V, Saraf A, Agrahari AC, Prakash S, Samantaray L, et al. Pattern of computer and internet use among medical students in coastal south India. South East Asian J Med Edu. 2008;2(2):18-25
4. Abhishek G, Rajshree J, Surjeet KM. Pattern of smart phone Use among MBBS students in an Indian medical college. Int J App Res. 2016;2(5):389-92.
5. Subramaniam M, Shijia Q, Munidasa W. Prevalence and correlates of excessive internet use among youth in Singapore. Ann Acad Med Singapore. 2008;37(1):9-14.
6. Wanajak K. Internet use and its impact on secondary school students in Chiang Mai, Thailand. Res Onl Institut Rep. 2011.
7. Young K. Inernet addiction: The emergence of new clinical disorder. Cyber Psychol Behav. 1998;1(3):237-44.
8. Salehi M, Khall MN, Hojjat SK, Salehi M, Danesh A. Prevalence of internet addiction and associated factors among medical students from Mashhad, Iran in 2013. Iran Red Crescent Med J. 2014;16(5):17256.
9. Limaye R, Fotwengel G. Use of internet among undergraduate students from Mumbai, India. Int J Elect Commu Tech. 2015;6(2):26-8
10. Salubi OG, Nekhwevha F, Oyediran-Tidings S, Ondari-Okemwa E. Digital media usage and prevalence of internet addiction among undergraduate students in South Africa. Int J Web Appl. 2019;10(4):127-36.
11. Sharma A, Sahu R, Kasar PK, Sharma R. Internet addiction among professional courses students. Int J Med Sci Public Health. 2014;3(9):1069-73
12. Mashaei N, Mohammad A, Ahmad PB, Omid R, Ayatollahi A, Reza B, et al. The prevalence of internet addiction among the students of Rafsanjan university of medical sciences. ASEAN J Psychiatry. 2013;14(2):109-16.
13. Chaudhari B, Menon P, Saldanha D, Tewari A, Bhattacharya L. Internet addiction and its

determinants among medical students. Ind Psychiatry J. 2015;24(2):158-62
14. Paul AVR, Ganapthi CK, Duraimurugan M, Abirami V, Reji E. Internet addiction and associated factors: a study among college students in south India. Inno J Med Health Sci. 2015;l5(3)121-5.
15. Usman NH, Alavi M, Shafeq MS. Relationship between internet addiction and academic performance among foreign undergraduate students. Proc Soc Behav Sci. 2014;114:845-51.
16. Shahibi MS, Rusli KN. The influence of internet usage on student's academic performance. Inter J Aca Resh Bus Soci Sci. 2017;7(8):873-87.

Cite this article as: Oo KM, Soe PP, Oo WM. Study on internet usage and internet addiction of medical students in universities of Myanmar. Int J Community Med Public Health 2021;8:2212-9.